



SECTION 1062

PULL AND JUNCTION BOXES

1062.1 Scope. These specifications cover pull and junction boxes intended for use on highway lighting, traffic signal and sign lighting projects.

1062.2 Pull Boxes. Pull boxes may be cast-in-place concrete, precast concrete, preformed polyester resin mortar or resin mortar and fiberglass. Each pull box shall be equipped with a bolt down cover. The threaded hole which receives the cover hold-down bolt shall be open at the bottom to allow cleanout of sand, dirt and other debris. Covers for pull boxes to be used for highway lighting or sign lighting shall be embossed with "STATE LIGHTING". Covers for pull boxes to be used for traffic signals, or a combination of traffic signals and 120 volt intersection lighting, shall be embossed with "STATE SIGNALS". Lock down bolts shall be stainless steel or brass with a penta-head. Pull box dimensions shall be as shown on the plans.

1062.2.1 Cast-in-place concrete pull boxes shall be constructed of Class B or B-1 concrete, or a commercial mixture meeting the requirements of [Sec 501](#). Material, proportioning, mixing, slump and transporting of concrete shall be in accordance with applicable provisions of [Sec 501](#). Placing, finishing and curing shall be in accordance with applicable provisions of [Sec 703](#). The pull boxes shall be cast in a neat and workmanlike manner. Forms will be required for the inside surfaces of the pull box walls. If the excavation is irregular, forms will also be required for the outside surfaces of the walls. An outside form shall be installed across all trenches leading into the pull box excavation. The ends of all conduit through the walls shall fit tightly against the inside form.

1062.2.2 Precast concrete pull boxes shall be constructed of Class B or B-1 concrete, or a commercial mixture meeting the requirements of [Sec 501](#). Material, proportioning, mixing, slump and transporting of concrete shall be in accordance with [Sec 501](#). Concrete for precast pull boxes shall be placed, finished and cured in accordance with applicable provisions of [Sec 703](#).

1062.2.3 Concrete pull box frames and covers shall be cast iron conforming to the requirements of AASHTO M 105, Class 30, and of the dimensions and weights (masses) shown on the plans. Cable hooks shall be galvanized steel or brass with a minimum diameter of 3/8 inch (9.5 mm) and a minimum length of 5 inches (125 mm).

1062.2.4 Preformed pull boxes shall be composed of mortar consisting of sand, gravel and polyester resin reinforced by a woven glass fiber mat or of resin mortar and fiberglass. The pull box shall withstand a wheel load of 20,000 pounds (9000 kg). Each pull box shall be equipped with a bolt down cover of the same material. Metal conduits, if used in preformed pull boxes, shall be electrically bonded to one another inside each pull box.

1062.3 Junction Boxes. Junction boxes shall be flanged and designed for flush mounting if encased in concrete, or designed for surface mounting if external mounting is specified. Junction boxes shall be installed so that covers are removable. Junction boxes shall be watertight NEMA 4 enclosures. They shall be stainless steel or PVC. PVC boxes shall have a minimum wall thickness of 1/4 inch (6 mm). Junction boxes shall conform to the following minimum sizes unless otherwise specified:

Maximum Entering Conduit Size, Inches (mm)	Minimum Box Size, Inches (mm)
2 (50)	12 x 12 x 4 (300 x 300 x 100)
4 (100)	16 x 12 x 6 (400 x 300 x 150)

1062.3.1 PVC conduit shall be joined to junction boxes using a threaded terminal adapter, a locknut and a sealing washer or "O" ring to make a rigid and waterproof connection. Metal conduit shall be joined to junction boxes using sealing nuts or fittings with sealing washers to make a rigid and waterproof connection. If metal conduit is used, an insulated bushing shall be provided at the end of the metal conduit on the inside of the junction box to prevent scuffing of the cable insulation. The junction box cover shall be made watertight with a suitable gasket and secured with stainless steel or cadmium plated screws or bolts.